REMARKS

The Office Action mailed September 22, 2004, has been carefully considered by Applicant. Reconsideration is respectfully requested in view of the foregoing claim amendments and the remarks that follow. Applicant respectfully reserves the right to appeal further rejections set forth by the Examiner regarding the claims set forth herein.

Claims 1-81 are cancelled.

Claims 82-121 are added.

Information Disclosure Statement

Herewith Applicant submits an Information Disclosure Statement citing Applicant's corresponding European Patent EP 1216865, which issued on October 13, 2004.

Objections to the Drawings

The drawings have been objected to as failing to show every feature of the invention specified in the claims. By the present Amendment, the language referenced by the Examiner in claim 62 has been deleted. As such, no drawing correction is believed necessary and the drawings are believed in condition for allowance.

Claim Objections

Claim 70 has been objected to as containing grammatically awkward language. By the present Amendment, claim 70 is canceled, thus rendering the claim objection moot.

Claim Rejections Under 35 U.S.C. §112

Claims 33-35 and 69 have been rejected under 35 U.S.C. §112, second paragraph. By the present Amendment, claims 33-35 and 69 are cancelled, thus rendering the claim rejections moot.

Claim Rejections Under 35 U.S.C. §103

Claims 32, 33, 36-38, 40-48, 51-60, 63-66 and 68 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gooding et al U.S. Patent No. 6,176,542 in view of Widrig et al U.S. Patent No. 4,876,825 and German Patent Publication No.

19616788. Claims 34 and 35 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gooding et al '542 in view of Widrig et al '825 and German Patent Publication No. 19616788. Claims 49, 50, 61, 62 and 70-80 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gooding et al '542 in view of Widrig et al '825 and German Patent Publication No. 19616788, and further in view of Cho U.S. Patent No. 6,367,863. Claims 67 and 69 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Gooding et al '542 in view of Rashid et al U.S. Patent No. 5,536,060 and German Patent Publication No. 19616788. Claim 81 has been rejected under 35 U.S.C. §103(a) as being unpatentable over Gooding et al '542 in view of Widrig et al '825, German Patent Publication No. 19616788 and Cho '863, and further in view of Ohya et al U.S. Patent No. 4,662,115.

By the present Amendment, claims 32-38 and 40-81 are cancelled and replaced with new claims 82-121, of which claims 82, 106, 109, 112, 115, 120 and 121 are independent. As detailed further below, independent claims 82, 106, 109, 112 and 115 recite a lightweight door for motor vehicles that is novel and non-obvious in view of the teachings of the prior art, and particularly in view of the references relied upon by the Examiner in the outstanding Office Action. Claims 120 and 121 recite a method of making a lightweight door for motor vehicles that is also novel and non-obvious in view of the prior art.

In general the present invention satisfies a major need in the automotive vehicle door industry. It is becoming more and more essential that automobile doors have a thin, lightweight frame that is inexpensive to produce, and yet still meets common industry static and dynamic rigidity requirements, as well as requirements for installation space and arrangement of installed components. The unique door of the present application provides such a lightweight, inexpensive door that meets industry requirements.

There is no cognition in the prior art itself, absent the present application, that with the arrangement claimed herein it would be possible to achieve a lightweight door that is sufficiently rigid and that can also be economically produced. It is the combination of

elements/steps claimed in independent claims 82, 106, 109, 112, 115, 120 and 121 that constitutes a door that is unique, novel and non-obvious in view of the prior art. By the present invention alone it is possible to abandon door components that add undesirable weight (such as for example a separate window module frame). This is a highly surprising result for a deep drawn or pressed, light metal or light metal alloy door frame. Previously, such a result was achieved only with aluminum castings having much higher weight and production cost.

In general, the references cited by the Examiner in this application teach known designs for automobile doors, which require additional heavy parts (such as a separate window module frame); are formed from steel (which is undesirably heavy); and/or are cast parts (which are undesirable because they has less static and dynamic rigidity and for the many reasons stated in Applicant's previous Response). The present application alone teaches a lightweight automobile door that overcomes the deficiencies of prior doors – including the doors taught by the references cited by the Examiner.

The Examiner is respectfully requested to consider: *In re Dembiczak*, 50 USPQ2d 1614 (1999), wherein the invention at issue was a trash bag made of orange plastic and decorated with lines and facial features, allowing the bag when filled with trash or leaves to resemble a Halloween-style pumpkin or jack-o-lantern. The application in *Dembiczak* was rejected over a combination of the references showing traditional trash bags and decorated jack-o-lantern or pumpkin bags. The court notes on page 1616 that an analysis under section 103 begins with the phrase "at the time the invention was made" to guard against entry into the "tempting but forbidden zone of hindsight". On page 1617, the court states that "measuring a claimed invention against the standard established by section 103 requires the oft-difficult but critical step of casting the mind back to the time of the invention, to consider the thinking of one of ordinary skill in the art guided only by the prior art references and the then- accepted wisdom in the field "and to avoid the temptation which may otherwise tempt one "to fall victim to the insidious affect a hindsight syndrome wherein that which only the inventor is taught is used against its

teacher." Further, the "[c]ase law makes clear that the best defense against the subtle but powerful attraction of a hindsight based obviousness analysis is rigorous application of the requirement for the showing of the teaching or motivation to combine prior art references." Combining prior art references without evidence of a suggestion, teaching, or motivation, simply takes the inventors disclosure as a blue print for piecing together the prior to defeat patentability-the essence of hindsight.

It is respectfully submitted that in the present application, the outstanding rejections do not suggest, teach or motivate one skilled in the art to combine the references as proposed. Furthermore, applicant will set forth reasons specifically rebutting such attempted combination, including: (a) even if the references are combined, the resultant combinations still do not yield claimed subject matter; (b) to combine the references requires that one actually diverge oppositely from the teachings thereof, which obliterational modification of a reference's teaching is not a supportable basis for rejection.

As noted by the court in *Dembiczak* on page 1618, "Yet this reference-by-reference, limitation-by-limitation, analysis fails to demonstrate how the Holiday and Shapiro references teach or suggest their combination with the conventional trash or lawn bags to yield the claimed invention". So too the present rejection reference-by-reference and limitation-by-limitation analysis fails to demonstrate how the references teach or suggest their combination, much less, yield the claimed invention, without diverging oppositely from what is taught in the references. To the contrary, the references actually teach away from the present invention.

Claims 82 through 105

The structural design of the lightweight door of claim 82 is significantly different from the door disclosed in Gooding et al '542, as well as the doors disclosed in the remaining references. It is the unique structural combination of elements claimed in claim 82 that provides the advantages discussed above. This combination is not taught, suggested, or rendered obvious by a combined reading of the cited prior art.

Gooding et al '542 discloses a door assembly that has an inner door panel (14) formed from a steel stamping. *See e.g.* column 2, lines 57-64. As shown in Fig. 1, the inner door panel (14) includes a window frame that is part of the one-piece inner door panel (14). Impact loads and operational loads are transmitted to the one-piece inner door panel (14) by means of a window module (16) that includes a side impact beam assembly (46) and an inner reinforcement beam (48). *See e.g.* column 3, lines 8-18. A window module frame (53) is formed by the window module (16), impact beam assembly (46), and inner reinforcement beam (48). Furthermore, a latch assembly (112) is carried by the window module frame (53). The Gooding et al '542 door is completely different from the door of claim 82 in a substantial number of structural and functional aspects. For example:

- The door according to claim 82 is specifically designed as a U-shaped door that is a pressed or deep drawn light metal or light metal alloy sheet. The door of Gooding et al '542 is not U-shaped and is not a pressed or deep drawn light metal or light metal alloy sheet.
- The door of claim 82 has inner and outer window gutter profiles that are light metal or a light metal alloy and are welded to the hinge support and lock support of the U-shaped door. The door of Gooding et al '542 does not have inner and outer window gutter profiles welded to the hinge and lock support of the U-shaped door.
- The door of claim 82 has a window frame that is light metal or a light metal alloy and is welded to the inner window gutter profile. As mentioned above, the window frame of Gooding et al '542 is a steel stamping and is not light metal or light metal alloy; and Gooding et al '542 has a door and window frame that are one piece.
- The door of claim 82 has a lateral impact protection element that is a light metal or light metal alloy extruded profile. The lateral impact protection element is welded to the U-shaped supporting frame. Gooding et al '542 teaches a side impact beam

assembly (46) that is welded to the window module (16), not to a U-shaped supporting frame.

The clear differences in structure between the door of Gooding et al '542 and the door of claim 82 are not surprising because the door of Gooding et al '542 is designed to solve completely different functional problems than the door of claim 82. Gooding et al intended to create a door that facilitates easy removal and replacement of defective hardware in the door. *See* col. 1, line 34 through col. 2 line 9. Gooding et al is not applicable to, and does not teach providing the lightest weight door possible that meets the industry standards for static and dynamic rigidity. This is clearly evidenced by the fact that the Gooding et al arrangement **specifically requires additional components which add weight**, such as the separate window module (16) that is fastened onto the one-piece inner door.

As such, one skilled in the art, upon a reading, of Gooding et al., would not find any teaching to construct the lightweight door of claim 82. Nor would one skilled in the art find the necessary motivation to combine the door of Gooding et al '542 with the remaining prior art references.

The Examiner turns to Widrig et al '825 to show a vehicle door made from aluminum alloy, welding connection means, and a sloping side impact protection beam. However, Widrig et al '825 specifically requires a door frame that is an aluminum alloy **casting**. This is very different from a pressed or deep drawn light metal or light metal alloy, as required by claim 82. This important distinction is clearly shown in the Applicant's prior Response, dated August 9, 2004 (see pages 13-19 and associated Declaration). In addition, the U-shaped supporting frame is not one piece. Widrig et al were concerned with creating a door design that is lightweight and meets industry requirements. However, Widrig et al fail to recognize the possibility of producing a one-piece pressed or deep drawn door that meets these objectives. Widrig et al also fail altogether to recognize that the specific combination of elements claimed in claim 82 (e.g. inner and outer window gutter profiles, reinforcement and connection sheets, etc.)

uniquely afford the ability to manufacture such a door that meets the industry requirements and is economic to produce.

The Examiner turns to German Patent Publication No. 19616788 to show inner and outer window gutter profiles which form an area cross stay. Again, this reference teaches only a hinge support and lock support (3, 2) which are aluminum **castings**. Such an arrangement requires complicated (and heavy) structures to combine with an aluminum extrusion profile as a boom (4) and as gutter profiles (6).

The remaining references also fail to teach or suggest to one skilled in the art that the arrangement set forth in claim 82 would meet the need for a lightweight, inexpensive automobile door that satisfies the aforementioned industry standards. See the detailed analysis provided in the prior Response, dated August 9, 2004 (*see* pages 13-19 and associated Declaration).

Even after a very close reading of the references cited by the Examiner, there is no teaching or suggestion that the arrangement provided by the presently claimed invention would meet the need for a lightweight, inexpensive automobile door that satisfies the aforementioned industry standards. The required motivation to combine the various teachings of the prior art to arrive at the presently claimed invention is not present. Independent claim 82 is thus believed allowable over the applied references.

Claims 83-105 depend directly or indirectly from claim 82 and are thus believed allowable for the reasons stated above, as well as the subject matter recited therein.

Claims 106-108

Claim 106 defines a combination including a window frame made of light metal or a light metal alloy, the window frame having first and second ends welded to the inner window gutter profile, an area-shaped cross stay which closes the U-shaped portion and which is located opposite the door bottom, and reinforcement and connection sheets arranged on the supporting frame and permanently connected to the supporting frame by a connection technique selected from the group consisting of press-riveting, bonding, and welding, wherein the reinforcement and connection sheets are parts selected from the

group consisting of pressed parts and deep drawn parts; wherein at the hinge support the reinforcement and connection sheets form hollow chambers with the supporting frame; and wherein upper and lower hinge point strengthening plates, made from light metal or a light metal alloy, are permanently attached to the hinge support. This, in combination with the remaining arrangement for a door recited in claim 106, is not taught or suggested by the prior art. Claim 106 is believed allowable.

Claims 107 and 108 depend directly from claim 106 and are also believed allowable for the reasons stated above, as well as the subject matter recited therein.

Claims 109-111

Claim 109 defines a lightweight door for motor vehicles wherein the first and second ends of the window frame extend beyond the front and rear ends of the inner window gutter profile, where they are permanently connected to the inner window gutter profile. This aspect, in combination with the arrangement of claim 109, is not taught or suggested by the prior art. Claim 109 is believed allowable.

Claims 110 and 111 depend from claim 109 and are thus believed in condition for allowance for the reasons stated above, as well as the subject matter recited therein.

Claims 112-114

Claim 112 defines a lightweight door for motor vehicles wherein the first and second ends of the window frame abut on top of the front and rear ends of the inner window gutter profile, where they are permanently connected to the inner window gutter profile. This, in combination with the remaining elements of claim 112, is neither taught nor suggested by the prior art.

Claims 113 and 114 depend directly from claim 110 and are thus believed allowable for the reasons stated above, as well as the subject matter recited therein.

Claims 115-118

Claim 115 defines a the lightweight door for motor vehicles reinforcement and connection sheets arranged on the supporting frame and permanently connected to the supporting frame by a connection technique selected from the group consisting of press-

riveting, bonding, and welding and wherein structural frame gussets are formed at the connections between the supporting frame, inner window gutter profile, lateral impact protection element and window frame. This aspect, in combination with the remaining elements of claim 115, is neither taught nor suggested by the prior art.

Claims 116-119 depend directly or indirectly from claim 115 and are thus believed allowable for the reasons stated above, as well as the subject matter recited therein.

Claims 120 and 121

Independent claims 120 and 121 define a method of making a lightweight door for motor vehicles. The methods comprise the steps of: (1) deep drawing or pressing a supporting frame, wherein the supporting frame comprises a U-shaped portion comprising a hinge support forming one U-limb, a lock support forming the other U-limb, and a door bottom that interconnects the hinge support and the lock support; (2) welding inner and outer window gutter profiles to the hinge support and lock support, the inner and outer window gutter profiles made from light metal or a light metal alloy, wherein if the lightweight door is installed in a motor vehicle body, the inner and outer window gutter profiles are essentially aligned in the longitudinal direction of the motor vehicle body; (3) welding a lateral impact protection element having first and second ends to the supporting frame, wherein the lateral impact protection element is an extruded profile made of light metal or a light metal alloy; and (4) welding a window frame having first and second ends to the inner window gutter profile, the window frame made of light metal or light metal alloy.

The claimed methods of forming an automobile door are not taught nor suggested by the cited references. Claims 120 and 121 are thus believed allowable.

Conclusion

In accordance with the claim amendments and remarks provided above, this application is believed in condition for allowance and such action is earnestly requested.

Respectfully submitted,

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